

II. Remarks

Support for the various amendments made to the claims herein may be found throughout the application as filed. Claim 19 is cancelled herein, claims 4, 8 and 16 are amended herein, and new claims 25-30 are added herein....

On March 16, 2007, a Final Office Action (hereafter "Final Office Action") was mailed rejecting all of the then-pending claims on the basis of U.S. Patent No. 6,762,748 to Maatta et al., U.S. Patent No. 5,815,139 to Yoshikawa et al., and UK Patent Application GB 2,247,938 A to Sherriff et al.

The present Preliminary Amendment and Response are submitted herewith in response to the Final Office Action.

III. Rejections of Claims Made in the Final Office Action

In the Final Office Action mailed March 16, 2007, the Examiner rejected claims on the following bases:

- (A) Claim 8 was rejected under 35 U.S.C. Section 102(b) as being anticipated by Sherriff et al. (GB 2,247,938) (hereinafter Sherriff);
- (B) Claim 16 was rejected under 35 U.S.C. Section 103(a) as being unpatentable over Sherriff in view of Yoshikawa et al. (U.S. 5,815,139) (hereinafter Yoshikawa);
- (C) Claims 4 and 19 were rejected under 35 U.S.C. Section 102(e) as being anticipated by Sherriff in view of Maatta et al. (U.S. 6,762,748) (hereinafter Maatta).

Each of the foregoing rejections is responded to below, where each response references the letter corresponding to each rejection set forth above.

IV. Responses to Rejections Made in the Office Action

(A) Claim 8 as amended herein is not anticipated by Sheriff under 35 U.S.C. 102(b).

In rejecting claim 8 as anticipated by Sheriff the Examiner stated:

As to claim 8, Figs. 14 – 16 of Sheriff discloses a pointing device (puck), comprising: a surface having a puck field of motion defined thereon (62 in Fig. 14); a moveable puck comprising a user sensor ("click" switches 69) that detects an interaction between a user and the puck, the puck being confined to move within the puck field of motion (62); and a position detector (capacitor plates 67, 68) that measures the position of the puck in the puck field of motion, wherein the user sensor ("click" switches) detects a change in capacitance associated with an electrode on the puck (capacitor plates 72 and 76 for sensing switch information; see page 3, line 35 to page 4, line 4; and page 10, lines 16 – 31).

Reference to claim 8 as amended herein will show that this claim contains limitations disclosed nowhere in the cited Sheriff reference. More particularly, reference to claim 8 as amended herein shows that all the following elements and limitations are recited therein:

- (a) a pointing device, comprising:
- (b) a surface having a puck field of motion defined thereon;
- (c) a moveable puck comprising an upper surface, a lower surface;
- (d) at least one user sensor;

- (e) and a puck electrode attached thereto or housed therein;
- (f) the upper surface being configured to deflect in a downward direction towards the lower surface in response to a user applying a first or second downward force thereto;
- (g) the at least one user sensor being disposed between the upper surface and the lower surface;
- (h) and configured to generate a first output signal when the upper surface is deflected downwardly by the user into first position corresponding to the first downward force;
- (i) and to generate a second output signal when the upper surface is deflected by the user into a second position corresponding to the second downward force;
- (j) the puck being confined to move within the puck field of motion;
- (k) a position detector configured to measure the position of the puck in the puck field of motion;
- (l) the position detector comprising surface electrodes disposed on or near the surface and the puck electrode;
- (m) the position detector further being configured to measure the capacitance between selected ones of the electrodes and thereby

permit the position of the puck in respect of the surface to be determined.

Referring to the Sheriff reference, it becomes clear that *the Sheriff reference discloses at least none of elements (d), (f), (g), (h) or (i) as they are recited in claim 8 as amended herein.*

Anticipation by a reference requires that all elements recited in a patent claim be found within the four corners of the cited reference. Here, *at least five elements and limitations recited in claim 8 as amended herein are nowhere to be found in the cited Sheriff reference.* Accordingly, claim 8 as amended herein cannot be anticipated by the Sheriff reference.

(B) Claim 16 as amended herein is not unpatentable over Sheriff in view of Yoshikawa under 35 U.S.C. 103(a).

In rejecting claim 16 as unpatentable over Sheriff in view of Yoshikawa under 35 U.S.C. 103(a), the Examiner stated:

As to claim 16, Sheriff discloses a pointing device (puck), comprising: a surface having a puck field of motion defined thereon (62 in Fig. 14); a moveable puck comprising a user sensor ("click" switches 69) that detects an interaction between a user and the puck, the puck being confined to move within the puck field of motion (62); and a position detector (capacitor plates 67, 68) that measures the position of the puck in the puck field of motion, wherein the position detector comprises surface electrodes (68) on the surface and a puck electrode (67) that moves with the puck.

Sheriff does not disclose the position detector measures current flowing between selected ones of the electrodes. However, Fig. 2 of Yoshikawa teaches a pointing device comprising a resistance position detector (tablet sheet 6) for measuring current flowing between selected ones of the electrodes (60a, 60b, 61a, 61b; see col. 6, lines 28 – 67). Thus it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the pointing device of Sheriff to have a position detector for measuring the current flowing between selected ones of the electrodes as taught by Yoshikawa because the capacitance position detector and the resistance position detector are alternative for each other and because this will enhance the degree of freedom for input operation of the relative manipulated variable input device and hence will improve it [sic] operability (col. 11, lines 9 – 11 of Yoshikawa).

Reference to claim 16 as amended herein will show that this claims contains limitations disclosed nowhere in the cited Sheriff and Yoshikawa references. More particularly, reference to claim 16 as amended herein

shows that all the following elements and limitations are recited therein:

- (a) a pointing device, comprising:
- (b) a surface having a puck field of motion defined thereon;
- (c) and a first magnet operatively associated therewith;
- (d) a moveable puck comprising an upper surface, a lower surface;
- (e) at least one user sensor;
- (f) a puck electrode attached thereto or housed therein;
- (g) and a second magnet attached thereto or housed therein;
- (h) the upper surface being configured to deflect in a downward direction towards the lower surface in response to a user applying a first or second downward force thereto;
- (i) the at least one user sensor being disposed between the upper surface and the lower surface;
- (j) and configured to generate a first output signal when the upper surface is deflected downwardly by the user into first position corresponding to the first downward force;

- (k) and to generate a second output signal when the upper surface is deflected by the user into a second position corresponding to the second downward force;
- (l) the puck being confined to move within the puck field of motion;
- (m) a position detector configured to measure the position of the puck in the puck field of motion;
- (n) the position detector comprising surface electrodes disposed on or near the surface and the puck electrode;
- (o) the position detector further being configured to measure the respective amounts of electrical current flowing between selected ones of the electrodes to thereby permit the position of the puck in respect of the surface to be determined.

Referring to the Sheriff and Yoshikawa references, it becomes clear that *the neither reference discloses any of elements (c), (e), (g), (h), (i), (j) or (k) as they are recited in claim 16 as amended herein.* In other words, at least seven elements now recited in claim 16 as amended herein are nowhere to be found in the cited Sheriff and Yoshikawa references, alone or in combination.

The Applicants have discovered that a certain novel combination of electrical, electronic and magnetic components combined and configured in a certain order are required to produce the beneficial effects of the present invention. As demonstrated above, at least seven of those

components are disclosed or suggested anywhere in the Sheriff and Yoshikawa references, and accordingly cannot be *prima facie* obvious.

Merely asserting that "would be obvious to try" the invention by making reference to the capacitively-operated mouse of Sheriff, and the contact resistance electrodes of Yoshikawa, while essentially creating other claimed elements out of whole cloth without referring to any specific portions of the cited references to establish a motivation for combining elements or functionality disclosed therein, would not establish a *prima facie* case of obviousness. In going from the prior art to the claimed invention, one cannot base obviousness on what a person skilled in the art might try or find obvious to *try*, but rather must consider what the prior art would have lead a person skilled in the art to *do*.

There is no incentive, teaching or suggestion in the Sheriff and Yoshikawa references to produce the invention now recited in claim 16. The mere fact that the cited Sheriff and Yoshikawa references could, with the benefit of hindsight, produce something vaguely similar to the present invention does not make the modification obvious, or suggest the desirability of the modification required to arrive at the present invention. Indeed, this conclusion is buttressed by the fact that numerous elements and limitations are missing in the Sheriff and Yoshikawa references in respect of claim 16 as amended herein (and as discussed in detail above).

It is well settled that a motivation to combine elements or limitations disclosed in disparate references *must be found within the references themselves or from pertinent sources of extrinsic information*, and that such a motivation does not arise, as here, by merely identifying a collection of disparate piece parts in a combination of references, and then asserting it would have been obvious to take such disparate elements and limitations and add many others thereto to arrive at the presently claimed invention.

There is no suggestion of what direction any experimentation should follow in the Sheriff and Yoshikawa references to obtain the invention now recited in claim 16. Accordingly, the result effective variables, for example providing first and second output signals to a host apparatus such as a computer depending on the amount of force a user applies to deflectable upper surface, where the degree of deflection imparted to such an upper surface is sensed by a user sensor, are not known to be result effective. Thousands or millions of attempts at variations might be made before arriving at the desired improvement. Thus, to say that it would be obvious to read the Sheriff and Yoshikawa references and somehow arrive at the invention now recited in claim 16 would clearly not be the test for obviousness.

The foregoing analysis also makes it clear that there is no basis in the art for modifying the teachings of the Sheriff and Yoshikawa references to arrive at the invention now recited in claim 16. Obviousness cannot be established by combining or modifying the teachings of the prior art to produce the claimed invention, absent some teaching, suggestion or incentive supporting the combination. The Sheriff and Yoshikawa references do not teach the problems associated with providing a deflectable membrane that is configured to function in cooperation with a user sensor, or providing first and second output signals to a host device.

When, as here, the prior art itself provides no apparent reason for one of ordinary skill in the art to make a modification or to combine references, an argument clearly does not exist that the claimed subject matter would have been obvious. Thus, an attempt to use the applicants' own disclosure as a blueprint to reconstruct in hindsight the invention now recited in claim as amended herein out of isolated teachings appearing in the prior art would clearly be improper.

The results and advantages produced by the invention set forth in claim 16 as amended herein, and of which the cited Sheriff and Yoshikawa references are devoid, cannot be ignored simply because the claim limitations might be deemed similar to the otherwise barren prior art.

The foregoing analysis also makes it clear that many limitations appearing in claim 16 as amended herein are not present in the Sheriff and Yoshikawa references. When evaluating a claim for determining obviousness, *all* limitations of the claim must be evaluated. Under §103, the Examiner cannot dissect claim 16 as amended herein, excise the various individual elements recited in the claim, and then declare the remaining portions of the mutilated claim to be unpatentable. The Examiner must follow the basic rule of claim interpretation of reading the claims as a whole. Accordingly, the Sheriff and Yoshikawa references may not properly be used as a basis for rejecting claim 16 as amended herein under §103.

For all the foregoing reasons and more, the presently claimed invention is not *prima facie* obvious in view of the Sheriff and Yoshikawa references.

(C) Claim 4 as amended herein is neither anticipated by, nor obvious in view of, Sherriff and/or Maattaet under 35 U.S.C. 102(e)/103(a).

Claim 19 is cancelled herein, thereby rendering moot the rejection of such claim.

In rejecting claims 4 and 19 as being anticipated and or obvious under 35 U.S.C. Section 102(e)/103(a) by Sherriff and/or Maattaet, the Examiner stated:

As to claim 19, Sherriff discloses a pointing device (puck), comprising: a surface having a puck field of motion defined thereon (62 in Fig. 14); the moveable puck being confined to move within the puck field of motion (62); and a position detector (capacitor plates 67, 68) that measures the position of the puck in the puck field of motion, wherein the position detector comprises surface electrodes (68) on the surface and a puck electrode (67) that moves with the puck, wherein the position detector measures the capacitance between selected ones of the electrodes (page 5, lines 12 – 16 for example).

Figs. 7 and 8 of Sherriff disclose the device having a restoring mechanism (springs) that returns the puck to a predetermined area (central position) in the puck field of motion. Sherriff differs from the claim in that the restoring mechanism not having a first magnet and a second magnet. However, Maatta teaches a restoring mechanism in a pointing device comprises a first magnet (M1) (in Figs. 2, 4a) and a second magnet (M2) for returning the puck to the centered position (see Figs. 2, 4a and col. 5, lines 24 – 53; Maatta states "the two attracting magnets exhibit a tendency to return to the state of maximum combined flux thus the magnets will tend to return to this centered position despite any applied external forces"). Thus, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the restoring mechanism of Sherriff to employ the magnets as taught by Maatta in order to provide a compact low profile pointing device (col. 1, lines 7 – 9 of Maatta).

As to claim 4, not the discussion of claim 19 above. In addition, Sherriff teaches a moveable puck comprising a user sensor ("click" switch 41 in Fig. 11 for example) that detects an

interaction between a user and the puck, and the user sensor detects a change in capacitance associated with an electrode on the puck (Figs. 15, 16, the capacitor plates 72 and 76 for sensing switch information; see page 3, line 35 to page 4, line 4; and page 10, lines 16 – 31).

Reference to claim 4 as amended herein will show that this claims contains limitations disclosed nowhere in the cited Sheriff and Maattaet references. More particularly, reference to claim 4 as amended herein shows that all the following elements and limitations are recited therein:

- (a) a pointing device, comprising:
- (b) a surface having a puck field of motion defined thereon;
- (c) and a first magnet operatively associated therewith;
- (d) a moveable puck comprising an upper surface, a lower surface;
- (e) at least one user sensor;
- (f) a puck electrode attached thereto or housed therein;
- (g) and a second magnet attached thereto or housed therein;
- (h) the upper surface being configured to deflect in a downward direction towards the lower surface in response to a user applying a first or second downward force thereto;

- (i) the at least one user sensor being disposed between the upper surface and the lower surface;
- (j) and configured to generate a first output signal when the upper surface is deflected downwardly by the user into first position corresponding to the first downward force;
- (k) and to generate a second output signal when the upper surface is deflected by the user into a second position corresponding to the second downward force;
- (l) the puck being confined to move within the puck field of motion;
- (m) the user sensor being configured to detect a change in capacitance associated with the puck electrode;
- (n) a position detector configured to measure the position of the puck in the puck field of motion;
- (o) the position detector comprising surface electrodes disposed on or near the surface and the puck electrode;
- (p) the position detector further being configured to measure the capacitance between selected ones of the electrodes and thereby permit the position of the puck in respect of the surface to be determined;

- (q) a restoring mechanism configured to return the puck to a predetermined area in the puck field of motion, the restoring mechanism comprising the first magnet and the second magnet.

Referring to the Sheriff and Maattaet references, it becomes clear that *the neither reference discloses any of elements (e), (h), (i), (j), (k), (m) or (p) as they are recited in claim 4 as amended herein*. In other words, at least seven elements now recited in claim 4 as amended herein are nowhere to be found in the cited Sheriff and Maattaet references, alone or in combination.

The Applicants have discovered that a certain novel combination of electrical, electronic and magnetic components combined and configured in a certain order are required to produce the beneficial effects of the present invention. As demonstrated above, at least seven of those components are disclosed or suggested anywhere in the Sheriff and Maattaet references, and accordingly cannot be *prima facie* obvious.

Merely asserting that "would be obvious to try" the invention by making reference to the capacitively-operated mouse of Sheriff, and the magnetically-operated buttons of Maattaet, while essentially creating other claimed elements out of whole cloth without referring to any specific portions of the cited references to establish a motivation for combining elements or functionality disclosed therein, would not establish a *prima facie* case of obviousness. In going from the prior art to the claimed invention, one cannot base obviousness on what a person skilled in the art might try or find obvious to *try*, but rather must consider what the prior art would have lead a person skilled in the art to *do*.

There is no incentive, teaching or suggestion in the Sheriff and Maattaet references to produce the invention now recited in claim 4. The mere fact that the cited Sheriff and Maattaet references could, with the benefit of hindsight, produce something vaguely similar to the present invention does not make the modification obvious, or suggest the desirability of the modification required to arrive at the present invention. Indeed, this conclusion is buttressed by the fact that numerous elements and limitations are missing in the Sheriff and Maattaet references in respect of claim 4 as amended herein (and as discussed in detail above).

It is well settled that a motivation to combine elements or limitations disclosed in disparate references *must be found within the references themselves or from pertinent sources of extrinsic information*, and that such a motivation does not arise, as here, by merely identifying a collection of disparate piece parts in a combination of references, and then asserting it would have been obvious to take such disparate elements and limitations and add many others thereto to arrive at the presently claimed invention.

There is no suggestion of what direction any experimentation should follow in the Sheriff and Maattaet references to obtain the invention now recited in claim 4. Accordingly, the result effective variables, for example providing first and second output signals to a host apparatus such as a computer depending on the amount of force a user applies to deflectable upper surface, where the degree of deflection imparted to such an upper surface is sensed by a user sensor, are not known to be result effective. Thousands or millions of attempts at variations might be made before arriving at the desired improvement. Thus, to say that it would be obvious to read the Sheriff and Maattaet references and somehow arrive at the invention now recited in claim 4 would clearly not be the test for obviousness.

The foregoing analysis also makes it clear that there is no basis in the art for modifying the teachings of the Sheriff and Maattaet references to arrive at the invention now recited in claim 4. Obviousness cannot be established by combining or modifying the teachings of the prior art to produce the claimed invention, absent some teaching, suggestion or incentive supporting the combination. The Sheriff and Maattaet references do not teach the problems associated with providing a deflectable membrane that is configured to function in cooperation with a user sensor, or providing first and second output signals to a host device.

When, as here, the prior art itself provides no apparent reason for one of ordinary skill in the art to make a modification or to combine references, an argument clearly does not exist that the claimed subject matter would have been obvious. Thus, an attempt to use the applicants' own disclosure as a blueprint to reconstruct in hindsight the invention now recited in claim as amended herein out of isolated teachings appearing in the prior art would clearly be improper.

The results and advantages produced by the invention set forth in claim 4 as amended herein, and of which the cited Sheriff and Maattaet references are devoid, cannot be ignored simply because the claim limitations might be deemed similar to the otherwise barren prior art.

The foregoing analysis also makes it clear that many limitations appearing in claim 4 as amended herein are not present in the Sheriff and Maattaet references. When evaluating a claim for determining obviousness, *all* limitations of the claim must be evaluated. Under §103, the Examiner cannot dissect claim 4 as amended herein, excise the various individual elements recited in the claim, and then declare the remaining portions of the mutilated claim to be unpatentable. The Examiner must follow the basic rule of claim interpretation of reading the

claims as a whole. Accordingly, the Sheriff and Maattaet references may not properly be used as a basis for rejecting claim 4 as amended herein under §103.

For all the foregoing reasons and more, the presently claimed invention is not *prima facie* obvious in view of the Sheriff and Maattaet references.

VII. Summary

Claims 4, 8, 16, as amended herein, and new claims 25-30, are pending in the present application, and are believed to be in condition for allowance. Examination of the application as amended is requested. The Examiner is respectfully requested to contact the undersigned by telephone or e-mail with any questions or comments he may have.

Respectfully submitted,
Jonah Harley et al.
By their attorney


Thomas F. Woods
Registration No. 36,726

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Woods Patent Law
P.O. Box 2528
Lyons, Colorado 80540-2528
Tel: (303) 823-6560
Fax: (303) 823-6594
E-mail: tom@woodspatentlaw.com